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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/640,063	08/17/2000	John Stanko	050-96-017C1/D1(2158.4700	5049

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EXAMINER

ELDRED, JOHN W

ART UNIT PAPER NUMBER

3644

DATE MAILED: 07/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/640,063

Applicant(s)

STANKO ET AL.

Examiner

J. Woodrow Eldred

Art Unit

3644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 183-186, 188-209, 223-226, 228-254, 258, 261, 262, 265-278, 281, 283-285, and 287 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08).  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

Continuation of Disposition of Claims: Claims pending in the application are 183-186,188-209,223-226,228-254,258,261,262,265-278,281,283-285 and 287.

### DETAILED ACTION

1. In view of the Amendment and remarks filed 6-7-05, the finality of the Office Action dated March 10, 2005 is hereby withdrawn and the current Action is issued.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 183, 191, 192, 197, 199-201, 207-209, and 270 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peppard (5,134,266) in view of Shaw et al (5,318,254).

Peppard discloses an apparatus for deicing an aircraft comprising substantially all claimed elements including a vehicle, a boom (10) pivotally mounted on the vehicle, an air compressor (50), an air nozzle on the free end of the boom (30), means for heating the air (45), ducts for moving the heated compressed air (at 50-200 psi, column 4, line 34) from the compressor to the air nozzle, and a vehicle engine for supplying power to the compressor. Peppard fails to disclose the compressor as located "at the base of the boom". Shaw et al teach that it is known to provide, on a vehicle, a deicing fluid pump located at the base of a nozzle carrying boom. See Figure 7, elements 114 and 134. Shaw also discloses that the compressor is in an enclosure which is connected to the boom. See Figure Figures 2 and 7, and element 28. The pump for the deicing fluid is analogous to the compressor for deicing compressed air. Motivation to combine is the well known improvement in efficiency of having the source of a fluid as near as possible to the area of use, in order to avoid friction losses. To employ the teachings of Shaw et al on the deicing apparatus of Peppard and have the compressor located at the base of the boom is considered to have been obvious to one having ordinary skill in the art.

Art Unit: 3644

4. Claims 184-186, 190, 193-196, and 202-204 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peppard in view of Shaw et al as applied to claims 183, 191, 192, 197, 199-201, 207-209, and 270 above, and further in view of Warnock (4,423,980).

Peppard fails to disclose a hydraulic motor driving the compressor, a hydraulic pump driving the hydraulic motor, hydraulic fluid lines connecting the pump and the motor, and a vehicle engine driving the hydraulic pump. Warnock discloses an analogous vehicle 10 with an articulated element (i.e. a dump box 14 analogous to a boom) which has an air wand 104 mounted on the articulated element which discharges air from an air compressor 88, which is driven by a hydraulic motor 28, a hydraulic motor 28 which drives the hydraulic motor, a fluid supply line 85 connecting the hydraulic motor and pump, and a vehicle motor 19 which has a power take-off unit 20 to drive the hydraulic pump. Motivation to combine is the mere substitution of known means for driving the compressor, with the attendant advantages of hydraulic power. To employ the teachings of Warnock and Shaw et al on the deicing apparatus of Peppard and have the claimed hydraulic power system to drive the compressor is considered to have been obvious to one having ordinary skill in the art.

5. Claims 188, 189, 197, 198, and 201 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peppard in view of Shaw et al and Warnock as applied to claims 183, 191, 192, 197, 199-201, 207-209, and 270 above, and further in view of Williams (5,244,168).

Peppard fails to disclose either an air nozzle with an axisymmetric contour having a converging portion; or a fluid nozzle mounted on the air nozzle, a source of deicing fluid, a fluid pump, and a connecting supply tube. Williams teach that it is known to have a converging air nozzle, see element 26 in Figure 2. Williams also teach that it is known to mount a fluid nozzle, element 42 in figure 2, on the air nozzle and to provide the associated fluid source, pump, and tubing; see elements 40, 36, and the teaching in column 7, line 4 that a pump can be provided. Motivation to combine is the increased flow velocity that will inherently be created by a converging nozzle, and the teaching in column 2, lines 48-51 of Williams that providing the deicing fluid results in increased economy and effectiveness of deicing operations. To employ the teachings of Williams,

Art Unit: 3644

Shaw et al, and Warnock on the deicing apparatus of Peppard is considered to have been obvious to one having ordinary skill in the art.

6. Claims 223-225, 230-236, 239, 240, 242-244, 246-254, 258, 261, 262, 265-269, 271-278, 281, 283-285, and 287 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peppard in view of Warnock.

Peppard is applied as above, noting that it fails to disclose having the compressor connected to the boom. Warnock is applied as above, noting that it teaches having the compressor and the fluid motor mounted on the articulated element analogous to the boom of Peppard. (The compressor and fluid motor are mounted on the cabinet 18, which is mounted on the movable dump box 14.) Note also, that it is considered inherent for an air compressor to have an impeller and an air outlet. Motivation to combine is the clear improvement in efficiency of having the source of a fluid as near as possible to the area of use, in order to avoid friction losses. To employ the teachings of Warnock on the deicing apparatus of Peppard and have the compressor connected to the boom is considered to have been obvious to one having ordinary skill in the art.

7. Claims 228, 229, 237, 238, and 241 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peppard in view of Warnock as applied to claims 223-225, 230-236, 239, 240, 242-244, 246-254, 258, 261, 262, 265-269, 271-278, 281, 283-285, and 287 above, and further in view of Williams.

Peppard fails to disclose either an air nozzle with an axisymmetric contour having a converging portion; or a fluid nozzle mounted on the air nozzle, a source of deicing fluid, a fluid pump, and a connecting supply tube. Williams teach that it is known to have a converging air nozzle, see element 26 in Figure 2. Williams also teach that it is known to mount a fluid nozzle, element 42 in figure 2, on the air nozzle and to provide the associated fluid source, pump, and tubing; see elements 40, 36, and the teaching in column 7, line 4 that a pump can be provided. Motivation to combine is the increased flow velocity that will inherently be created by a converging nozzle, and the teaching in column 2, lines 48-51 of Williams that providing the deicing fluid results in increased

economy and effectiveness of deicing operations. To employ the teachings of Williams, and Warnock on the deicing apparatus of Peppard is considered to have been obvious to one having ordinary skill in the art.

8. Claims 186 and 205 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peppard in view of Shaw et al and Warnock as applied to claims 183, 191, 192, 197, 199-201, 207-209, and 270, and further in view of Gebhardt (4,488,447).

Peppard and Warnock fail to disclose a gear drive between the compressor and the hydraulic motor for stepping up the revolutions per minute of the compressor relative to the output of the hydraulic motor. Gebhardt teach that it is well known to use a gear drive to step up the revolutions of a compressor relative to a driving motor. See especially claim 1. Motivation to combine is the teaching in column 1, lines 27-31, that step-up (or down) gearing is used to fully utilize the delivery capability of a machine. To employ the teachings of Gebhardt on the compressor and hydraulic motor of Peppard and Warnock and have step-up gearing is considered to have been obvious to one having ordinary skill in the art.

9. Claims 226 and 242 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peppard in view of Warnock as applied to claims 223-225, 230-236, 239, 240, 242-244, 246-254, 258, 261, 262, 265-269, 271-278, 281, 283-285, and 287 above, and further in view of Gebhardt (4,488,447).

Peppard and Warnock fail to disclose a gear drive between the compressor and the hydraulic motor for stepping up the revolutions per minute of the compressor relative to the output of the hydraulic motor. Gebhardt teach that it is well known to use a gear drive to step up the revolutions of a compressor relative to a driving motor. See especially claim 1. Motivation to combine is the teaching in column 1, lines 27-31, that step-up (or down) gearing is used to fully utilize the delivery capability of a machine. To employ the teachings of Gebhardt on the compressor and hydraulic motor of Peppard and Warnock and have step-up gearing is considered to have been obvious to one having ordinary skill in the art.

Art Unit: 3644

10. In regard to Applicant's Remarks, it is noted that the claims as now amended do not copy the claims of 6,209,823 or 6,547,187 and are properly rejected over prior art. It is believed that the above rejections supply proper motivation to combine references and that all the patents as used form proper combinations under U.S.C. 103(a).

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

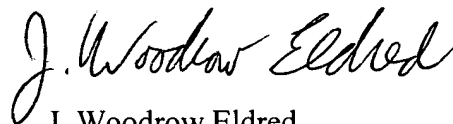
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Woodrow Eldred whose telephone number is 571-273-6901. The examiner can normally be reached on Monday to Thursday, from 8:00 a.m. to 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teri Luu can be reached on 571-272-7045. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



Art Unit: 3644

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in cursive script that reads "J. Woodrow Eldred".

J. Woodrow Eldred  
Primary Examiner  
Art Unit 3644

JWE